RAW SEQUENCE LISTING

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Application Serial Number:	10/554, 408
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RAW SEQUENCE LISTINGPATENT APPLICATION: **US/10/554,408**DATE: 02/21/2007

TIME: 14:05:30

Input Set : A:\2923-737.txt

3 <110> APPLICANT: Grode, Leander

```
Kaufmann, Stefan H.E.
        Raupach, Baerbel
 5
        Hess, Juergen
 6
8 <120> TITLE OF INVENTION: Tuberculosis Vaccine with Improved Efficacy
10 <130> FILE REFERENCE: 2923-737
12 <140> CURRENT APPLICATION NUMBER: 10/554,408
13 <141> CURRENT FILING DATE: 2005-10-24
15 <150> PRIOR APPLICATION NUMBER: PCT/EP04/004345
16 <151> PRIOR FILING DATE: 2004-04-23
18 <150> PRIOR APPLICATION NUMBER: 60/464,644
19 <151> PRIOR FILING DATE: 2003-04-23
21 <160> NUMBER OF SEQ ID NOS: 2
23 <170> SOFTWARE: PatentIn version 3.3
25 <210> SEO ID NO: 1
26 <211> LENGTH: 1881
27 <212> TYPE: DNA
28 <213> ORGANISM: Mycobacterium
31 <220> FEATURE:
32 <221> NAME/KEY: CDS
33 <222> LOCATION: (1)..(1878)
35 <400> SEQUENCE: 1
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37 Met Thr Asp Val Ser Arg Lys Ile Arg Ala Trp Gly Arg Arg Leu Met
38 1
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40 atc ggc acg gca gcg gct gta gtc ctt ccg ggc ctg gtg ggg ctt gcc
                                                                          96
41 Ile Gly Thr Ala Ala Ala Val Val Leu Pro Gly Leu Val Gly Leu Ala
               20
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                                                                         144
44 ggc gga gcg gca acc gcg ggc gcg ttc tcc cgg ccg ggg ctg ccg gtc
45 Gly Gly Ala Ala Thr Ala Gly Ala Phe Ser Arg Pro Gly Leu Pro Val
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48 gag tac ctg cag tct gca aag caa tcc gct gca aat aaa ttg cac tca
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49 Glu Tyr Leu Gln Ser Ala Lys Gln Ser Ala Ala Asn Lys Leu His Ser
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52 gca gga caa agc acg aaa gat gca tct gca ttc aat aaa gaa aat tca
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53 Ala Gly Gln Ser Thr Lys Asp Ala Ser Ala Phe Asn Lys Glu Asn Ser
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56 att tca tcc atg gca cca cca gca tct ccg cct gca agt cct aag acg
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57 Ile Ser Ser Met Ala Pro Pro Ala Ser Pro Pro Ala Ser Pro Lys Thr
                                       90
60 cca atc gaa aag aaa cac gcg gat gaa atc gat aag tat ata caa gga
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61 Pro Ile Glu Lys Lys His Ala Asp Glu Ile Asp Lys Tyr Ile Gln Gly
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				ccg													432
69	Thr	Asn	Val	Pro	Pro	Arg	Lys	Gly	Tyr	Lys	Asp	Gly	Asn	Glu	Tyr	Ile	
70		130					135					140					
	_			aaa		**								-			480
	,	Val	Glu	Lys	Lys		Lys.	Ser	Ile	Asn		Asn	Asn	Ala	Asp		
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		_	-	aat													528
	Gln	Val	Val	Asn		Ile	Ser	Ser	Leu		Tyr	Pro	Gly	Ala		Val	
78					165		•			170					175		556
				tcg													576
	Lys	Ala	Asn	Ser	GIu	Leu	vaı	GIu		GIN	Pro	Asp	vaı		Pro	Vai	
82				180					185		.			190			624
		-	_	tca													624
	гуѕ	Arg	_	Ser	Leu	Thr	Leu		тте	Asp	ьeu	PIO	_	Met	IIII	ASII	
86		~~~	195		5 t a	~++	~+ a	200	-	~~~	aat .		205	224	~++	220	672
				aaa Lys													072
90	GIII	210	ASII	пуъ	TIE	vai	215	цуъ	ASII	нта	1111	220	PCI	HSII	vaı	ASII	
	220		ata	aat	202	tta		a a a	ana	taa	aat		222	tat	act	caa	720
		_	_	Asn				_	_			_			_		,20
	225	AIG	Val	ADII	1111	230	var	OIU	9	111	235	014	1 17.0	-1-	1114	240	•
		tat	cca	aat	αta		aca	aaa	att	gat		gat	gac	gaa	atα		768
	_			Asn	_	_	_			_					_		
98		-1-			245			_,_		250	-1-				255		
) tac	: agt	gaa	. tca		tta	att	aco	r aaa		: aat	aca	a qca	a ttt		gct	816
																Āla	
102	_			260					265		-			270			
104	l qta	aat	aat	ago	ttg	aat	gta	aac	: ttc	ggc	gca	a ato	agt	gaa	ggg	g aaa	864
																Lys	
106			275					280		_			285				
108	ate	g caa	a gaa	ı gaa	gto	att	agt	ttt	aaa	a caa	a att	tac	c tat	aac	gtg	, aat	912
109	Met	Glr	ı Glı	ı Glu	ı Val	. Ile	Ser	Phe	Lys	Glr	ı Ile	e Ty	r Tyi	Asr	ı Val	Asn	
110)	290)				295	;				300	כ				
112	gtt	aat	gaa	cct	aca	aga	cct	tcc	aga	a ttt	tto	gg	c aaa	a gct	gtt	act	960
113	Val	. Asr	ı Glı	ı Pro	Thr	Arg	Pro	Ser	Arg	g Phe	Phe	e Gly	y Lys	a Ala	.Va]	Thr	
114	305	5				310)				315	5				320	
																gca	1008
117	Lys	: Glı	ı Glr	ı Leu	Glr.	ı Ala	Let	ı Gly	v Val	l Asr	ı Ala	a Glı	ı Ası	n Pro	Pro	Ala	
118					325					330		•			335		
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123	Tyr	: Ile	e Sei	Ser	Val	. Ala	туг	: Gly	Arg	g Glr	ı Val	l Ty	r Lei	ı Lys	: Let	ı Ser	
122				340					345					350			
																gta	1104
		Ası			Ser	Thr	Lys			s Ala	a Ala	a Phe			a Ala	a Val	
126			355					360					365				
128	ago	gga	a aaa	a tct	gto	tca	ı ggt	gat	gta	a gaa	a cta	a aca	a aat	: ato	ato	aaa	1152

RAW SEQUENCE LISTING DATE: 02/21/2007
PATENT APPLICATION: US/10/554,408 TIME: 14:05:30

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129 130	Ser	Gly 370	Lys	Ser	Val	Ser	Gly 375	Asp	Val	Glu	Leu	Thr 380	Asn	Ile	Ile	Lys	
132 133	aat Asn 385	tct				_	gta					tcc	_		_	_	1200
. 137,	gtt Val	Gln	Ile	Ile										Ile		Lys	1248
	aaa Lys																1296
	aca Thr																1344
	tca Ser	_			_					_			_				1392
3.53	aac Asn 465	Ile										Phe	Asn		Ser		1440
	gat Asp																1488
	aac Asn																1536
	atc Ile																1584
	tgc Cys																1632
173	aac Asn 545																1680
	ctt Leu																1728
180	tta Leu	gcc Ala	tat Tyr	gga Gly 580	agt Ser	cag Gln	ggt Gly	gat Asp	ctt Leu 585	aat Asn	cca Pro	tta Leu	att Ile	aat Asn 590	gaa Glu	atc Ile	1776
184	agc Ser			att										tcg			1824
188 189	cct Pro		gag					gga					agc				1872
	tcg Ser	acg	tag				913					020					1881

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RAW SEQUENCE LISTING DATE: 02/21/2007 PATENT APPLICATION: US/10/554,408 TIME: 14:05:30

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Output Set: N:\CRF4\02212007\J554408.raw

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297		370					375					380					
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304	Val	Gln	Ile	'Ile'	Asp	Gly	Asn	Leu	Gly	Asp	Leu	Arg	Asp	Ile	Leu	Lys	
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313			435					440					445				
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	465					470		_			475				1	480	
	Asp							Glu	Gly								
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329		-		500					505					510			
329 332	Ile	-	Leu	500				Arg	505				Tyr	510			
329 332 333	Ile	Tyr	Leu 515	500 Pro	Gly	Asn	Ala	Arg 520	505 Asn	Ile	Asn	Val	Tyr 525	510 Ala	Lys	Glu	
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329 332 333 336 337	Ile Cys	Tyr Thr 530	Leu 515 Gly	500 Pro Leu	Gly Ala	Asn Trp	Ala Glu 535	Arg 520 Trp	505 Asn Trp	Ile Arg	Asn Thr	Val Val 540	Tyr 525 Ile	510 Ala Asp	Lys Asp	Glu Arg	
329 332 333 336 337 340	Ile Cys Asn	Tyr Thr 530	Leu 515 Gly	500 Pro Leu	Gly Ala	Asn Trp Lys	Ala Glu 535	Arg 520 Trp	505 Asn Trp	Ile Arg	Asn Thr Ser	Val Val 540	Tyr 525 Ile	510 Ala Asp	Lys Asp	Glu Arg Thr	
329 332 333 336 337 340 341	Ile Cys Asn 545	Tyr Thr 530 Leu	Leu 515 Gly Pro	500 Pro Leu Leu	Gly Ala Val	Asn Trp Lys 550	Ala Glu 535 Asn	Arg 520 Trp Arg	505 Asn Trp Asn	Ile Arg Ile	Asn Thr Ser 555	Val Val 540 Ile	Tyr 525 Ile Trp	510 Ala Asp Gly	Lys Asp Thr	Glu Arg Thr 560	
329 332 333 336 337 340 341 344	Ile Cys Asn 545 Leu	Tyr Thr 530 Leu	Leu 515 Gly Pro	500 Pro Leu Leu	Gly Ala Val Tyr	Asn Trp Lys 550	Ala Glu 535 Asn	Arg 520 Trp Arg	505 Asn Trp Asn	Ile Arg Ile Asp	Asn Thr Ser 555	Val Val 540 Ile	Tyr 525 Ile Trp	510 Ala Asp Gly	Lys Asp Thr Tyr	Glu Arg Thr	-
329 332 333 336 337 340 341 344 345	Ile Cys Asn 545 Leu	Tyr Thr 530 Leu Tyr	Leu 515 Gly Pro	500 Pro Leu Leu Lys	Gly Ala Val Tyr 565	Asn Trp Lys 550 Ser	Ala Glu 535 Asn Asn	Arg 520 Trp Arg Lys	505 Asn Trp Asn Val	Ile Arg Ile Asp 570	Asn Thr Ser 555 Asn	Val Val 540 Ile Pro	Tyr 525 Ile Trp Ile	510 Ala Asp Gly Glu	Lys Asp Thr Tyr 575	Glu Arg Thr 560 Ala	
329 332 333 336 337 340 341 344 345 348	Ile Cys Asn 545 Leu	Tyr Thr 530 Leu Tyr	Leu 515 Gly Pro	500 Pro Leu Leu Lys Gly	Gly Ala Val Tyr 565	Asn Trp Lys 550 Ser	Ala Glu 535 Asn Asn	Arg 520 Trp Arg Lys	505 Asn Trp Asn Val Leu	Ile Arg Ile Asp 570	Asn Thr Ser 555 Asn	Val Val 540 Ile Pro	Tyr 525 Ile Trp Ile	510 Ala Asp Gly Glu Asn	Lys Asp Thr Tyr 575	Glu Arg Thr 560 Ala	
329 332 333 336 337 340 341 344 345 348 349	Ile Cys Asn 545 Leu Leu	Tyr Thr 530 Leu Tyr	Leu 515 Gly Pro Pro	500 Pro Leu Leu Lys Gly 580	Gly Ala Val Tyr 565 Ser	Asn Trp Lys 550 Ser Gln	Ala Glu 535 Asn Asn	Arg 520 Trp Arg Lys	505 Asn Trp Asn Val Leu 585	Ile Arg Ile Asp 570 Asn	Asn Thr Ser 555 Asn Pro	Val Val 540 Ile Pro Leu	Tyr 525 Ile Trp Ile	Asp Gly Glu Asn 590	Lys Asp Thr Tyr 575 Glu	Glu Arg Thr 560 Ala Ile	
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VERIFICATION SUMMARY

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